THE CLAIMS

There are no amendments to the claims.

The following is a complete list of all claims in this application.

1. (Original) A method for manufacturing a semiconductor device, comprising steps of:

forming a semiconductor layer on a substrate;

expanding a first region of the substrate to push up a first portion of the semiconductor layer;

compressing a second region of the substrate to pull down a second portion of the semiconductor layer;

forming an N type device over the first portion of the semiconductor layer; and

forming a P type device over the second portion of the semiconductor layer.

2. (Original) The method of claim 1, further comprising a step of forming an oxide layer between the semiconductor layer and the substrate.

3. (Original) The method of claim 1, wherein the step of expanding the first region comprises a step of ion-implanting an expansion element in the first region of the substrate.

4. (Original) The method of claim 3, wherein the expansion element is ion-implanted at an implantation concentration of approximately 1×10^{14} atoms/cm^2 to 5×10^{16} atoms/cm^2 and at an implantation energy of approximately 30 KeV to 300 KeV.

5. (Original) The method of claim 3, wherein a concentration peak of the implanted expansion element is confined within the first region.

6. (Original) The method of claim 3, wherein the expansion element is O_2.

7. (Original) The method of claim 3, wherein the step of compressing the second region comprises a step of ion-implanting a compression element in the second region of the substrate.

8. (Original) The method of claim 7, wherein the compression element is ion-implanted at an implantation concentration of approximately 1×10^{14} atoms/cm2 to 5×10^{16} atoms/cm2 and at an implantation energy of approximately 30 KeV to 300 KeV.

9. (Original) The method of claim 7, wherein a concentration peak of the implanted compression element is confined within the second region.

10. (Original) The method of claim 7, wherein the compression element is He, Ar or noble gas.

11. (Original) The method of claim 7, wherein the step of ion-implanting the compression element comprise a step of masking to selectively expose a channel region of the P type device.

12. (Original) The method of claim 7, further comprising a step of annealing to expand the first region and to compress the second region.

13. (Original) The method of claim 12, wherein the step of annealing is performed at a temperature of approximately 500° C to 1200° C for approximately 1 second to 30 minutes.

14. (Original) A method of manufacturing a semiconductor device, comprising steps of:

forming a semiconductor layer on a substrate;

selectively ion-implanting an expansion element in a first region of the substrate;

selectively ion-implanting a compression element in a second region of the substrate;

annealing to expand the first region and to compress the second region, wherein the expanded first region pushes up a first portion of the semiconductor layer and the compressed second region pulls down a second portion of the semiconductor layer; and

forming an N type device on the first portion of the semiconductor layer; and forming a P type device on the second portion of the semiconductor layer.

15. (Original) The method of claim 14, wherein the expansion element is O_2 and the compression element is He, Ar or noble gas.

16. (Original) The method of claim 14, wherein the expansion element is ion-implanted at an implantation concentration of approximately 1×10^{14} atoms/cm^2 to 5×10^{16} atoms/cm^2 and at an implantation energy of approximately 30 KeV to 300 KeV.

17. (Original) The method of claim 14, wherein the compression element is ion-implanted at an implantation concentration of approximately 1×10^{14} atoms/cm^2 to 5×10^{16} atoms/cm^2 and at an implantation energy of approximately 30 KeV to 300 KeV.

18. (Original) The method of claim 14, wherein the step of annealing is performed at a temperature of approximately 500° C to 1200° C for approximately 1 second to 30 minutes.

19. (Cancelled)

20. (Cancelled)